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Inside Wallops

Review Brings NASA One Step Closer To New Launch Vehicle

NASA is another step closer to defining the next-generation reusable space transportation system and successor to the Space Shuttle. The Space Launch Initiative (SLI), a NASA-wide effort defining the future of human space flight, has completed its first milestone review — resulting in a narrower field of potential candidates for the nation's second-generation reusable space transportation system.

"To use the resources afforded by space, it's critical to increase reliability and safety while at the same time reducing the cost of space transportation," said Art Stephenson, director of NASA's Marshall Space Flight Center, which manages the SLI for the Office of Aerospace Technology. "The Space Launch Initiative is doing the groundwork to accomplish these goals and create a second-generation launch system."

"We're not just designing a launch vehicle," added Dennis Smith, also of Marshall, program manager of the Space Launch Initiative. "We're designing the complete system."

The Initial Architecture Technology Review held recently analyzed and evaluated competing second-generation reusable space transportation architectures and technologies against NASA and commercial mission requirements, as well as safety and cost goals.

Architecture refers to the complete transportation system design — that is, the vehicles and their components that fly into space, as well as the ground operations needed for launch. The transportation system design includes an Earth-to-orbit reusable launch vehicle (the Space Shuttle is the first-generation reusable launch vehicle); on-orbit transfer vehicles and upper stages to put satellites into orbits; mission planning; ground and flight operations; and support infrastructure, both on orbit and on the ground.

Three contractor architecture teams — The Boeing Company of Seal Beach, Calif.; Lockheed Martin Corp. of Denver; and a team including Orbital Sciences Corp. of Dulles, Va., and Northrop Grumman of El Segundo, Calif. — presented dozens of potential architectures for review. Following the review, each retained a handful of possible candidates for the nation's next-generation reusable space launch system.

The review allows the Space Launch Initiative to target investments and support what the program manager called the "up-front, homework part of the program" — furthering technologies to aid in the development of a second-generation reusable launch vehicle. Another review will be held in November to further narrow potential space transportation architectures to two or three choices.



Artist's Concept

Since propulsion systems require a long lead-time to design, develop, test and evaluate, it isn't surprising that propulsion analysis was a chief driver through the recently completed review activity.

"We spent a lot of time analyzing propulsion technologies," said Smith. "Among the outcomes is a focus on kerosene-fueled main engines." This focus is based on studies, conducted by the architecture contractors that examine performance of competing technologies in safety, reliability, cost and operability. Studies indicated that kerosene main engines have excellent potential to meet government and commercial needs. The second-generation vehicle will have a two-stage-to-orbit propulsion system based on engines fueled by all kerosene, all hydrogen or a combination of kerosene and hydrogen.

Dependable, long-life engines, along with crew escape and survival systems, and long-life, lightweight integrated airframes are among the Space Launch Initiative's highest priorities. Each greatly impacts the program's bottom line of increased safety, reliability and cost effectiveness.

All NASA's field centers and the Air Force Research Laboratory are actively participating in the Space Launch Initiative. Additional information on NASA's Space Launch Initiative, including a list of the selected contractors, is available on the Internet at: <http://www.slinews.com/>

Wallops Shorts..... Sounding Rocket Launches

A NASA Nike-Orion sounding rocket was successfully launched from Wallops Island on May 10. This was the first of two Nike-Orions in the "thunderstorm series" and carried a geospace science experiment. The flight was nominal and good data was obtained from the experiment. A NASA Viper 3A Dart sounding rocket also was successfully launched in support of this mission. Dr. Charles Croskey, Pennsylvania State University, is the principal investigator.

Upcoming

The second NASA Nike-Orion and a Viper Dart in the "thunderstorm series" are on schedule nightly through May 17. Clear skies are needed for this mission. Dr. Croskey, Pennsylvania State University, is the principal investigator.

The Lockheed Martin hybrid sounding rocket launch is currently scheduled for no sooner than May 18 with a window from 6 to 8 a.m.

NASA's ER-2 Arrives

NASA Dryden Flight Research Center's ER-2 aircraft arrived on May 8 and is scheduled to operate from Wallops through June 7. The ER-2 flights will provide a platform for collecting high altitude data relative to surveying natural resources, investigating environmental problems and providing relative data for ground-truth and satellite data correlation. Take-off time for the ER-2 will be at approximately 10 a.m. daily. The aircraft will travel as far north as Canada and as far south as the Gulf Coast Region. Each mission will normally consist of a four to six hour flight at an altitude of between 60,000 to 70,000 feet.

P-3 Departs for Greenland

An Observational Science Branch team and aircraft support personnel departed Monday, May 13 in the NASA P-3B Orion aircraft for Greenland to conduct Arctic Mapping Missions. They scheduled to return on June 9.

On the Road

Presentations were conducted at the University of Maryland, Eastern Shore by Victor Eyo, Mechanical Systems Center on April 22; by Rick Baldwin, Virginia Space Flight Center on April 23; and by Al Beebe, Observational Science Branch, on April 25.

Ed Parrott, Wallops Teacher-on-Loan, conducted a mentoring program at Winter Place Farm, Salisbury, Md., on May 9.

**TSP Open Season
Coming Up**

One of the Thrift Savings Plan’s twice-yearly open seasons will begin May 15 and run through July 31, offering federal and postal employees who are not currently participating in the program an opportunity to sign up and offering current participants the option to change the amount of their ongoing investments.

Employees under the FERS retirement program this year may invest up to 12 percent of biweekly salary and those under the CSRS system may invest up to 7 percent, in both cases subject to an IRS dollar maximum—which currently applies only to FERS enrollees—of \$11,000.

Highly-paid FERS enrollees can use the opportunity to adjust their ongoing investments if necessary to ensure that they can continue to invest throughout the calendar year; if they hit the dollar limit before the end of the year, their own investments, and the government’s matching contributions, are cut off until the beginning of the next calendar year.

**National Peace Officers
Memorial Day**



In accordance with Public Law 103-222, our flags are to be flown at half-staff on Wednesday, May 15, to commemorate National Peace

Officers Memorial Day.

This tribute is in honor of the law enforcement officers who have made the ultimate sacrifice for our country.

**Satellite Broadcast on
Long Term Care Insurance**

The Office of Personnal Management, as part of the educational campaign for the Federal Long Term Care Insurance Program will broadcast the following information on Wallops TV Channel 6, May 15 from 12:30 to 1:30 p.m.

- * Learn who should purchase long term care insurance and who should not
- * Hear about what you should look for in a long term care insurance policy
- * Find out how much coverage you should buy
- * Discover how the Federal Long Term Care Insurance Program fits into this picture.

For more information call Khrista White on x66-8208

For more information on the Federal Long Term Care Insurance Program visit: www.LTCFEDS.com

**National High School
Rocket Contest**

In celebration of the centennial of powered flight in 2003, the Aerospace Industries Association (AIA) has teamed with the National Association of Rocketry (NAR) to sponsor the “Team America Rocketry Challenge,” a rocket design and launch contest for U.S. high school students.

The five winning student teams will share a total prize pool of approximately \$50,000 in savings bonds. Their school’s science departments will share \$9,000 in cash.

The Challenge involves designing, building, and flying a multi-stage model rocket weighing less than 3.3 pounds at liftoff and takes two raw eggs and an electronic altimeter as close as possible to 1500 feet at a fly-off competition to be held in Northern Virginia in April, 2003.

Information about the Challenge is posted on the AIA website at: www.aia-aerospace.org/aianews/features/team_america/team_america.cfm

Avoid the Poision Plants

Poison ivy, poison sumac, and poison oak can make your skin bubble, blister, and itch.

Poison ivy grows as a vine or low shrub. Poison oak is a low shrub in the Eastern part of the United States. Poison sumac grows into a tall shrub or small tree.



Usually, poison-plant rashes clear up on their own, but you may need to use some lotions, cream, or pills to stop the itch. Some people are very allergic to these plants, and may need to see a dermatologist if they get a rash.

When you come into contact with a poison ivy, oak, or sumac plant, you may break out in an allergic rash. An allergic rash can occur anywhere on your body and can take 10 days or longer to heal. You can get a rash three ways: by touching the plant’s sap, by touching something the oil has touched, or when particles in the air touch your skin.

Some people are extra sensitive to poisonous plants. They develop a very bad rash with blisters and extreme swelling. People with painful cases need to see a dermatologist right away. Those with extreme swelling may need to go to an emergency room.

If you’re going to be where you think poison-plants may grow, wear long pants and long sleeves, boots and gloves. Remember that the plant’s oil is almost invisible and sticks to just about everything.

Next week learn what to do if you’ve come in contact with the poison plants.

Bus Trip to Atlantic City

The Wallops Black History Club is sponsoring a bus trip on the Jor-Lin Bus Line to Atlantic City, N. J., on July 20.



The cost is \$40 per seat with a \$20 non-refundable deposit due by May 31.

For a schedule of departure times and stops or to reserve your seat contact Dave Smith, x1316; Rebecca Beach, x1559; Freda Johnson, X1466 or Audrey Young, x1084.

Mandatory ITS Training

Information Technology Security (ITS) is a top priority for NASA, and is considered to be a key component of successful mission accomplishment.

NASA requires all employees to take annual ITS training in order to have the appropriate awareness and tools to protect NASA’s information systems. All employees must complete mandatory ITS training by June 15, 2002. The courses are online at the SOLAR web site: <https://solar.msfc.nasa.gov/solar/delivery/public/html/newindex.htm>

**Advanced Microsoft
PowerPoint 2000**

8:30 a.m. to 4 p.m.
May 30 and 31
Building E-104, Room 308

Register today; there are only eleven seats available.

Description

This comprehensive course is designed to provide students with the skills necessary to use most of the advanced features within Microsoft PowerPoint 2000. The course is very fast-paced and not suitable for beginners.

You will learn

- To edit multiple presentations; set up a slide show; create and use hyperlinks
- To use the Pack and Go Wizard and the PowerPoint Viewer; publish to the Web
- To schedule an online meeting, schedule a Broadcast, customize toolbars; create, edit, and use charts

Cost

For contractors only - \$325.00

For more information, please call Sherry Tharpe on x 66-6533 or Kara Zaimis on x 66-5378. Fax a training request (civil servants) or company memo (contractors) to x66-0302.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees. Recent and past issues of *Inside Wallops* also may be found on the NASA Wallops Flight Facility homepage: www.wff.nasa.gov

Editor

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